

# Avtron XRB3 Intrinsic Safety Isolator



**Isolator for Class/Div &  
Class/Zone Level 1  
Applications of Avtron  
SMARTSafe™ Incremental  
Encoders**

## Avtron XRB3 Intrinsic Safety Isolator

## XRB3

- | cULus Listed, Class I, Div 1, Groups A, B, C, D
- | cULus Listed, Class I, Zone 0
- | ATEX Rated for Zone 1 and Zone 21
- | IECEx Rated for Zone 1 and Zone 21
  - | Up to 1000' [300m] Cable Length
  - | Fully Potted Electronics
- | Compatible with All Major Drive Brands and Controllers
  - | Protected Against Wiring Errors
- | Designed for Avtron SMARTSafe™ Incremental Encoders
  - | 3 Year No-Hassle Warranty



XRB3 intrinsic safety isolators are the key to providing complete Level 1 protection including: (cULus Class I, Div 1; Class I, Zone 0, ATEX Zone 1 & 21 "ia"; and IECEx Zone 1 & 21 "ia") for SMARTSafe™ incremental encoders with quadrature output.

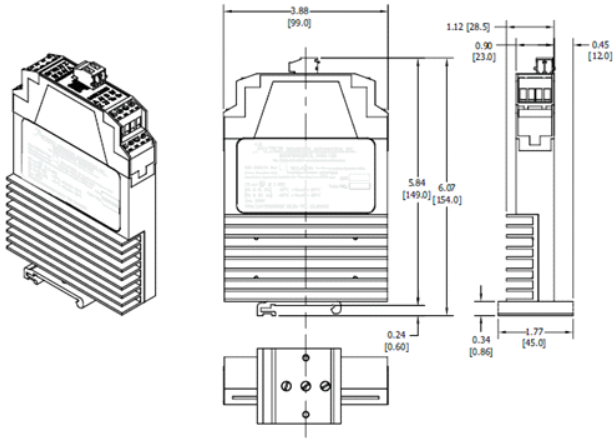
The XRB3 ensures the SMARTSafe encoder system meets hazardous duty UL and CSA, ATEX & IECEx safety standards. Also available: A full range of SMARTSafe rotary encoders to meet your application needs, including the heavy duty hollow shaft (XR45), shafted models (XR4F, XR485), and no-bearing modular encoders (XR56, XR85, XR115, XR125, XR850), and stand-alone sensors (XR5, XR12).

Unlike the competition, the Avtron SMARTSafe encoder systems including the XRB3 are fully protected against short circuits, power-to-output wiring, and output-to-ground faults at every point. Wiring errors won't harm this system!

Competitive intrinsic safety barriers for encoders often limit the available frequency throughput, or have undesirable voltage droop under load that limit cable length severely. The XRB3 has full throughput for Avtron quadrature encoders even at high PPRs, and the XRB3 allows the use of maximum cable lengths through its innovative stable-voltage design.

Select an Avtron SMARTSafe rotary encoder to eliminate encoder problems, and include the XRB3 as part of the system to meet UL and CSA system safety standards in your hazardous duty application!

## OUTLINE DRAWING



## MORE XRB3 ADVANTAGES

- Withstands direct short circuits in both safe zone and output connections

## XRB3 SPECIFICATIONS

Operating Power: 12-24VDC, nom. 200mA (w/SMARTSafe™ encoder); max 440mA

Output Voltage: 12-24V, nom.

Output Format: Incremental A Quad B with marker (A,/A, B,/B, Z,/Z quadrature)

Frequency Range: 0 to 165 KHz

Maximum Cable Length:

1000' [300m] XRB3 to control;

500' [152m] XRB3 to encoder\*

Temperature: -40°C to 80°C (Storage -40°C to 100°C)

Environmental: IP54, cabinet mount

Vibration: 5-2000Hz, 18Gs

Weight: 1.1 lbs. [0.5 kg]

\*XRB3 to encoder allowable cable length may be affected by cable characteristics and gas group application.

Check out our website for more detailed specifications, drawings, and installation instructions. [www.avtronencoders.com](http://www.avtronencoders.com)

### Certifications:

Associated apparatus for installation in Unclassified locations.

Provides intrinsically safe circuits for use in metals, marine, and oil & gas applications

cULus Class I, Division 1 Listed, (Gas) Groups A, B, C, D

cULus Class I, Zone 0, Group IIC Listed [AEx ia Ga] IIC

ATEX/IECEx, Zone 1, Group IIC [Ex ia IIC Gb] [Ex ia IIC Db]

## SELECTION GUIDE

Model
XRB3



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All dimensions approximate.